

Appl. No. 10/001,894
Amdt. dated October 19, 2005
Reply to Office Action of April 21, 2005

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REMARKS/ARGUMENTS

Claims 1, 4, 7-9, 17, 20, 23-25, 33, and 36-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Mao et al. (US Patent No. 6,546,385). Claims 2-3 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mao in further view of Mohan (Text-based search of TV news stories, 1996). Claims 5, 10, 16, 21, 26, 32, 34, 39, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mao in further view of Myers et al. (A Multi-Vie Intelligent Editor for Digital Video Libraries, 2001). Claims 6, 11, 22, 27, 35, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mao in further view of Chiu et al. (Automatically Linking Multimedia Meeting Documents by Image Matching, 2000). Claims 12, 28, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mao in further view of Dimitrova et al. (Video Keyframe Extraction and Filtering, 1997). Claims 13, 29, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mao in further view of Chen et al. (ViBE: A Video Indexing and Browsing Environment, 1999). Claims 14, 30, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mao and Chen in further view of Myers. Claims 15, 31, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mao.

Claims 1, 8, 13, 15, 17, 24, 29, 31, 33, 37, 42, and 44 have been amended. Claims 1-45 are pending.

Rejections under 35 U.S.C. § 102

Claim 1

As amended, claim 1 recites:

A computer-implemented method of using a paper document to retrieve multimedia information stored in a multimedia document in electronic form, wherein one or more user-selectable identifiers are printed on the paper document, the method comprising:

- (1) receiving a first signal indicating selection of a first user-selectable identifier from the one or more user-selectable identifiers printed on the paper document;
- (2) responsive to receiving the first signal, identifying a portion of multimedia information stored by the multimedia document corresponding to the first user-selectable identifier;
- (3) outputting the portion of the multimedia information corresponding to the first user-selectable identifier using an output device; and wherein the multimedia information comprises different types of information in an integrated form.

Mao et al. fails to disclose the step of "outputting the portion of the multimedia information corresponding to the first user-selectable identifier using an output device" (*emphasis added*). The only feature in Mao et al. that the Examiner points to as supposed disclosing this claimed step is the

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display device 415 of search assistant 402. *See* Office Action dated 7/13/05, p. 3, paragraph 5. However, display device 415 of search assistant 402 merely outputs text-based index information from an electronic index, not multimedia information, as explained in detail below.

Mao et al. teaches a "search assistant" (402), implemented as a handheld computing device, for generating and accessing a text-based electronic index. Like a traditional printed index found at the back of a hardcopy document (e.g., a book), the electronic index in search assistant 402 helps the reader look up index information such as the page numbers on which certain words or phrases appear in the hardcopy document. Search assistant 402 includes a display device 415 that outputs this index information to the reader. For example, the user can type the word "diamond" into search assistant 402. In response, search assistant 402 would output, via output device 415, the page number(s) on which the word "diamond" appears in the hardcopy document. Then, the reader can physically flip the pages of the hardcopy document in his/her possession, to turn to those specific pages that mention the word "diamond." Thus, search assistant 402 does not output the actual contents of the hardcopy document itself. Instead, search assistant 402 merely outputs index information, such as page numbers, that help the reader flip to the correct pages to locate a particular word or phrase as the reader reads the hardcopy document in its paper form.

The outputting of such index information by search assistant 402 as taught by Mao et al. fails to disclose claim 1's recited step of "outputting the portion of the multimedia information corresponding to the first user-selectable identifier using an output device." The index information from the electronic index consists of alphanumeric text, and nothing more. Indeed, the index information exists as an index table that is generated by extracting ~~text~~ from the document information collected from the hardcopy document (step 302). This extracted text is tagged (step 304) and analyzed (step 306). From this, specific words and phrases to be indexed are then extracted (step 308), and a list of these extracted words and phrases to be indexed are placed in a list (309). Then, multiple occurrences of the same word or phrase are merged together to form each index entry (312). In this manner, the complete index table is created (314). *See* Ho, Fig. 3 and Col. 5, lines 7-26. Because the index table is generated by extracting text, tagging and analyzing text, indexing text, listing text, and merging text, the resulting index table clearly contains text-based index information, not multimedia information. Consequently, the display device 415 of search assistant 402 only outputs text-based index information, not multimedia information, to the user.

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Although multimedia information from the hardcopy document may be used as raw data (e.g., text and graphics) from which to extract information used to generate the index table, the resulting index table (e.g., page numbers, X-Y coordinates) is clearly text based. In a previous Office Action, the Examiner stated that "[t]he indexed copy contains data in the form of text and graphics." See Office Action dated 4/21/05, p. 35, paragraph 13, citing Ho at col. 3, lines 48-50. It is not clear what the Examiner means here by "indexed copy." To the extent that the Examiner is suggesting that the index table created by Ho contains multimedia information, Applicants respectfully disagree. The portion of Ho cited by the Examiner does not state that the index table itself contains text and graphs. To the contrary, it states that "the text and graphics is provided to the index creation system 102." See Ho, col. 3, lines 48-50. That is, the text and graphics is only provided as raw data to the system that generates the index table. As described above, process of generating the index table involves extracting text, tagging and analyzing text, indexing text, listing text, and merging text. The resulting index table clearly contains text-based index information, not multimedia information. What is outputted by the display device 415 of search assistant 402 is index information from this text-based index table, not the raw data used to generate the index table.

Even when the index information is in the form of X-Y coordinates indicating the location of a graphics element in the hardcopy document, such X-Y coordinates still consist of just alphanumeric text (e.g., "X=5, Y= 2"). In other words, search assistant 402 does not output the graphics element itself. Instead, research assistant 402 only outputs index information, in the form of X-Y coordinates, to help the reader locate the graphics element on the pages of the hardcopy document in its paper form. See *id.*, col. 5, lines 23-26 ("...includes indexing information such as page number, line number and possibly coordinates such as X and Y to locate the data element in the hard copy document").

In fact, Mao et al. teaches away from the outputting of multimedia information using an output device. The point of Mao et al.'s invention is NOT to electronically output the contents of a hardcopy document (which may contain multimedia information, such as a combination of text, graphics, etc.) from an output device to the reader. Instead, Mao et al. emphasizes the "distinct advantages" of having the reader physically handle and directly read the hardcopy document itself, in its paper form. See *id.*, lines 65-67 ("[Hardcopy documents] are pleasant to read, easy to annotate, viewing distance and angle can be easily adjusted, they do not require network connectivity or depend on network speed, they are mobile, and so on."). Thus, Mao et al. is interested in creating a better way of providing index information, such as page numbers, to assist a reader who is reading a hardcopy document directly. Mao

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et al. is not interested in outputting the contents of the hardcopy document using an output device. That would defeat the purpose of Mao et al.'s invention, which is to assist the reader in reading a hardcopy document in its paper form.

For the reasons stated above, Mao et al. fails to disclose, and in fact teaches away from, the outputting of any multimedia information using an output device, as recited in claim 1.

Claims 8, 13, 15, 17, 24, 29, 31, 33, 37, 42 and 44

As amended, claims 8, 13, 15, 17, 24, 29, 31, 33, 37, 42 and 44 each recites features relating to the outputting of a portion of multimedia information using an output device. The Examiner has cited Mo et al. as supposedly disclosing such features, utilizing the same rationale as those used in rejecting claim 1. For at least the reasons stated above with respect to claim 1, claims 8, 13, 15, 17, 24, 29, 31, 33, 37, 42 and 44 are believed to be patentable.

Dependent claims


Claims 2-7, 9-12, 14, 16, 18-23, 25-28, 30, 32, 34-36, 38-41, 43 and 45 depend from claims 1, 8, 13, 15, 17, 24, 29, 31, 33, 37, 42 and 44, respectively, and each includes all the limitations of its respective independent claim. Thus, for at least the reasons stated above with regard to claims 1, 8, 13, 15, 17, 24, 29, 31, 33, 37, 42 and 44, claims 2-7, 9-12, 14, 16, 18-23, 25-28, 30, 32, 34-36, 38-41, 43 and 45 are also believed to be patentable.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,


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